

1 This listing of claims will replace all prior versions, and listings, of claims
2 in the application:

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4 **Listing of Claims**

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6 in the application.

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8 Claim 1 (Currently amended): A computer-readable medium having
9 computer-executable instructions for performing steps to communicate with a
10 remote terminal for displaying graphic user interface images, comprising:

11 receiving a drawing request to display a fragment on the remote terminal,
12 the fragment including a plurality of glyphs;

13 determining whether the fragment has been cached in a fragment cache at
14 the remote terminal; and

15 when it is determined that the fragment has been cached, sending a
16 fragment index associated with the fragment to the remote terminal, the fragment
17 index identifying an entry in the fragment cache that stores data representing the-
18 fragment.

19 Claims 2-16 (Canceled)
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1 Claim 17 (New): A computer-readable medium having stored thereon a
2 data structure, comprising at least a first table having a plurality of cells each
3 containing graphic representation data for a glyph, and a second table having a
4 plurality of entries each containing an array of cell indices corresponding to glyphs
5 in a text fragment, each of the cell indices identifying a cell in said at least a first
6 table, wherein the computer readable medium has computer-executable
7 instructions for performing steps to communicate with a remote terminal for
8 displaying graphic user interface images, comprising:

9 receiving a fragment index identifying an entry in the second table; and
10 displaying the fragment associated with the received fragment index.

11 Claim 18 (New): A computer-readable medium as in claim 17, wherein the
12 array of cell indices includes coordinate data representing separations between the
13 glyphs in the fragment.

14 Claim 19 (New): A computer-readable medium as in claim 18, wherein the
15 coordinate data represent a space between two character glyphs.

16 Claim 20 (New): A computer-readable medium as in claim 1, wherein the
17 determining act comprises testing the fragment cache to verify that each glyph in
18 the fragment is stored in the fragment cache.

19 Claim 21 (New): A computer-readable medium as in claim 20, further
20 comprising:

21 storing a plurality of glyph caches on the remote terminal,
22 wherein the fragment cache comprises a plurality of entries each having
23 location information identifying storage locations in the glyph caches for the
24 glyphs of the fragment.
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1 Claim 22 (New): A computer readable medium as in claim 20, having
2 further computer-executable instructions for performing the steps of identifying a
3 glyph in the fragment that is not currently stored in the cache, sending graphic
4 representation data for said glyph and a cell index to the remote terminal, the cell
5 index identifying a cell in the glyph caches for storing the graphic representation
6 data for said glyph.

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8 Claim 23 (New): A computer-readable medium as in claim 1, wherein the
9 fragment cache is implemented using a glyph caching scheme.

10 Claim 24 (New): A computer-readable medium as in claim 1, having
11 further computer-executable instructions for performing the step of maintaining a
12 local fragment cache identification table to identify which fragments are cached on
13 the remote terminal.

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15 Claim 25 (New): A computer-readable medium as in claim 24, wherein the
16 local fragment cache identification table stores fragment identification values
17 comprising information identifying one or more fragment storage locations in the
18 fragment cache at the remote terminal.

19 Claim 26 (New): A computer-readable medium as in claim 25, wherein the
20 local fragment cache identification table comprises a lookup table having fragment
21 keys associated with fragment indices identifying corresponding entries in the
22 fragment cache at the remote terminal.

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24 Claim 27 (New): A computer-readable medium as in claim 26, wherein the
25 fragment cache is based on a glyph cache system.

1 Claim 28 (New): A computer-readable medium as in claim 27, having
2 further computer-executable instructions for performing the step of maintaining a
3 local glyph cache lookup table for the glyph caches stored at the remote terminal,
4 wherein the glyph cache lookup table comprises glyph keys associated with cache
5 cell indices for identifying corresponding cells in the glyph caches.

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7 Claim 29 (New): A computer-readable medium as in claim 1, having
8 further computer-executable instructions for performing the steps of: when it is
9 determined that the fragment has not been cached:

10 identifying missing glyphs of the fragment that have not been cached at the
11 remote terminal;
12 caching the missing glyphs at the remote terminal;
13 determining a fragment index for the fragment, the fragment index
14 identifying an entry in the fragment table for storing said fragment;
15 storing the fragment index on a local computer system for maintaining the
16 fragment cache on the remote terminal; and
17 sending the fragment index to the remote terminal for caching the fragment
18 in an entry of the fragment cache identified by the fragment index.
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1 Claim 30 (New): A method of displaying fragments each containing a
2 plurality of glyphs on

3 a remote computer, comprising:
4 caching a fragment on the remote computer;
5 assigning a fragment identification value to the cached fragment;
6 receiving a request to display the fragment on the remote computer;
7 determining that the fragment has been cached on the remote computer; and
8 sending a request to the remote computer to display the cached fragment,
9 the request including the fragment identification value.

10 Claim 31 (New): A method as in claim 30, wherein the remote computer
11 includes a fragment cache for managing cached fragments, the fragment cache
12 having a plurality of entries each corresponding to a cached fragment and
13 containing information identifying locations of data for glyphs of said
14 corresponding cached fragment.

15 Claim 32 (New): A method as in claim 31, wherein the steps of assigning,
16 receiving, determining and sending are performed by a server computer system.

17 Clam 33 (New): A method as in claim 32, further including the step of
18 maintaining by the server computer system a fragment cache identification table
19 for determining which fragments have been cached on the remote computer.
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